

# CHAPTER I

## INTRODUCTION

### 1.1. Background

Vending machine can recognize the nominal money based on a reading of the color of money and match the nominal currencies with data that is already stored.

There are seven nominal cash money that issued of Indonesian Bank emissions in 2014, that is 1.000, 2.000, 5.000, 10.000, 20.000, 50.000, and 100.000. Each money has a different color based on the nominal of money. In particular nominal money, there are specific pattern on the front left side of money such as rectangle pattern on nominal 2.000 and 20.000, circle on nominal 10.000 and 100.000 and triangle on nominal 50.000. There is no specific pattern on nominal 1.000 and 5.000. Sometimes, there can be confusion between one and another money because of the same color and the lack of precision of the seller or buyer. The confusion can also occur if the money is not grouped by color or nominal.

The first step that will be going to do in this project is detecting the nominal money by reading color and specific pattern on cash money and match the currencies with data of money and specific pattern.

### 1.2. Scope

The scope of detecting the nominal money :

- Program detects the nominal by recognize the nominal 1.000, 2.000, 5.000, 10.000, 20.000, 50.000, 100.000 in rupiah money.
- Program detects specific pattern like rectangle on 2.000 and 20.000, circle on 10.000 and 100.000 and triangle on 50.000. There are no specific pattern on 1.000 and 5.000.

- Program can only read the nominal money when scan image is vertical or horizontal.

### 1.3. Objective

This project aims to design and build an application that able to recognize or identify nominal of money based on reading the RGB pixel data and specific pattern money. The application can compare images of money by reading the histogram and specific pattern of the image scan with a database image of the money

